

〈原 著〉

紫外線による NF- κ B 活性化と IL-1 α 産生への影響

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Influence on NF- κ B Activation and IL-1 α Expression by UV Irradiation to Human Epidermal Cell

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Abstract

Exposure of the human skin to ultraviolet (UV) radiation induces inflammatory cytokines which are responsible for the photooxidative damage. Transcription factor nuclear factor kappa B (NF- κ B) is involved in the transcription of genes whose protein products participate in inflammatory responses. In the present study, the production of IL-1 α and the activation of NF- κ B by UV light in human keratinocyte cell line were investigated by using enzyme-linked immunosorbent assay (ELISA) and electrophoretic mobility shift assay (EMSA), respectively. UVA light (320–400 nm) had no effect, whereas UVB light (290–320 nm) increased in the production of IL-1 α and the activation of NF- κ B. The results suggest that photooxidative damage in the human epidermis is due to UVB radiation. Those UVB-induced inflammatory responses were suppressed by addition of dexamethasone to the cells. Antiinflammatory action of glucocorticoids may be protective against UV-induced damage.

Key words: ultraviolet light, inflammation, nuclear factor kappa B, interleukin-1, glucocorticoid.